

|  |                                  |                          |
|--|----------------------------------|--------------------------|
| FORM PTO-1449<br>SEP 22 2004<br>U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE | ATTY. DOCKET NO.<br>LT-167       | SERIAL NO.<br>10/722,808 |
| INFORMATION DISCLOSURE<br>STATEMENT BY APPLICANT   | APPLICANT<br>Dittmer et al.      |                          |
|  | FILING DATE<br>November 26, 2003 | GROUP<br>2838            |

## U.S. PATENT DOCUMENTS

| EXAMINER INITIALS | DOCUMENT NUMBER | DATE     | NAME              | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
|-------------------|-----------------|----------|-------------------|-------|----------|----------------------------|
|                   | 3,458,798       | 07/29/69 | Fang et al.       |       |          |                            |
|                   | 3,571,697       | 03/23/71 | Phillips          |       |          |                            |
|                   | 3,579,091       | 05/18/71 | Clarke et al.     |       |          |                            |
| (JL)              | 3,581,186       | 05/25/71 | Weinberger        |       |          |                            |
| (JL)              | 3,582,758       | 06/01/71 | Gunn              |       |          |                            |
|                   | 3,585,491       | 06/19/71 | Peterson          |       |          |                            |
|                   | 3,733,540       | 05/15/73 | Hawkins           |       |          |                            |
|                   | 3,772,588       | 11/1973  | Kelly et al.      |       |          |                            |
|                   | 3,784,893       | 01/08/74 | Rando             |       |          |                            |
|                   | 3,863,128       | 01/28/75 | Wilwerding        |       |          |                            |
|                   | 3,879,647       | 04/22/75 | Hamilton et al.   |       |          |                            |
|                   | 3,992,638       | 11/16/76 | Sauvanet          |       |          |                            |
| (JL)              | 4,013,939       | 03/1977  | Biess et al.      |       |          |                            |
|                   | 4,035,710       | 07/12/77 | Joyce             |       |          |                            |
|                   | 4,071,884       | 01/31/78 | Maignret          |       |          |                            |
|                   | 4,160,288       | 07/03/79 | Stuart et al.     |       |          |                            |
|                   | 4,326,245       | 04/20/82 | Saleh             |       |          |                            |
|                   | 4,395,675       | 07/26/83 | Toumani           |       |          |                            |
|                   | 4,428,015       | 01/24/84 | Nesler            |       |          |                            |
|                   | 4,462,069       | 07/24/84 | Becky             |       |          |                            |
| (JL)              | 4,479,174       | 10/23/84 | Cates             |       |          |                            |
|                   | 4,493,017       | 01/08/85 | Kamimiller et al. |       |          |                            |
|                   | 4,519,024       | 05/21/85 | Federico et al.   |       |          |                            |
|                   | 4,541,041       | 09/1985  | Park et al.       |       |          |                            |
|                   | 4,554,499       | 11/19/85 | Sherman et al.    |       |          |                            |
|                   | 4,578,630       | 03/1986  | Grosch            |       |          |                            |
|                   | 4,610,521       | 09/09/86 | Inoue             |       |          |                            |
| V                 | 4,634,956       | 01/06/87 | Davis et al.      |       |          |                            |

EXAMINER

Sterrett

DATE CONSIDERED

8/23/05

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.

|  |  |                                  |                          |
|--|--|----------------------------------|--------------------------|
| FORM PTO-1449                                    | U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE | ATTY. DOCKET NO.<br>LT-167       | SERIAL NO.<br>10/722,808 |
| INFORMATION DISCLOSURE<br>STATEMENT BY APPLICANT |  | APPLICANT<br>Dittmer et al.      |                          |
|  |  | FILING DATE<br>November 26, 2003 | GROUP<br>2838            |

## U.S. PATENT DOCUMENTS

| EXAMINER INITIALS | DOCUMENT NUMBER | DATE     | NAME             | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
|-------------------|-----------------|----------|------------------|-------|----------|----------------------------|
|                   | 4,672,303       | 06/09/87 | Newton           |       |          |                            |
| ↑                 | 4,672,518       | 06/09/87 | Murdock          |       |          |                            |
|                   | 4,674,020       | 06/16/87 | Hill             |       |          |                            |
| (JL)              | 4,683,529       | 07/28/87 | Bucher, II       |       |          |                            |
|                   | 4,709,315       | 11/24/87 | Ramos            |       |          |                            |
|                   | 4,712,169       | 12/08/87 | Albach           |       |          |                            |
| ↓                 | 4,716,514       | 12/29/87 | Patel            |       |          |                            |
|                   | 4,727,308       | 02/23/88 | Huljak et al.    |       |          |                            |
| ↑                 | 4,754,385       | 06/28/88 | McDade et al.    |       |          |                            |
| (JL)              | 4,801,859       | 01/31/89 | Dishner          |       |          |                            |
| (JL)              | 4,813,066       | 03/14/89 | Holtz et al.     |       |          |                            |
| (JL)              | 4,814,684       | 03/21/89 | McCurdy          |       |          |                            |
|                   | 4,819,122       | 04/04/89 | Gontowski, Jr.   |       |          |                            |
| ↑                 | 4,823,070       | 04/18/89 | Nelson           |       |          |                            |
|                   | 4,843,532       | 06/27/89 | Freedman         |       |          |                            |
|                   | 4,866,587       | 09/12/89 | Wadlington       |       |          |                            |
| (JL)              | 4,870,555       | 09/26/89 | White            |       |          |                            |
|                   | 4,884,183       | 11/19/89 | Sable            |       |          |                            |
|                   | 4,902,957       | 02/20/90 | Cassani et al.   |       |          |                            |
| ↓                 | 4,922,404       | 05/01/90 | Ludwig et al.    |       |          |                            |
|                   | 4,928,200       | 05/22/90 | Redl et al.      |       |          |                            |
|                   | 4,929,882       | 05/29/90 | Szepesi          |       |          |                            |
| (JL)              | 4,931,716       | 06/05/90 | Jovanovic et al. |       |          |                            |
|                   | 4,996,638       | 02/26/91 | Orr              |       |          |                            |
| (JL)              | 5,028,861       | 07/1991  | Pace et al.      |       |          |                            |
|                   | 5,034,871       | 07/23/91 | Okamoto et al.   |       |          |                            |
| (JL)              | 5,066,900       | 11/19/91 | Bassett          |       |          |                            |
|                   | 5,068,575       | 11/26/91 | Dunsmore et al.  |       |          |                            |

EXAMINER

Sterrett

DATE CONSIDERED

8/23/05

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.

|  |  |                                  |                          |
|--|--|----------------------------------|--------------------------|
| FORM PTO-1449                                    | U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE | ATTY. DOCKET NO.<br>LT-167       | SERIAL NO.<br>10/722,808 |
| INFORMATION DISCLOSURE<br>STATEMENT BY APPLICANT |  | APPLICANT<br>Dittmer et al.      |                          |
|  |  | FILING DATE<br>November 26, 2003 | GROUP<br>2838            |

## U.S. PATENT DOCUMENTS

| EXAMINER INITIALS | DOCUMENT NUMBER | DATE     | NAME          | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
|-------------------|-----------------|----------|---------------|-------|----------|----------------------------|
|                   | 5,081,411       | 01/14/92 | Walker        |       |          |                            |
|                   | 5,097,196       | 03/17/92 | Schoneman     |       |          |                            |
|                   | 5,128,603       | 07/07/92 | Wölfel        |       |          |                            |
|                   | 5,134,355       | 07/28/92 | Hastings      |       |          |                            |
| QD                | 5,138,249       | 08/11/92 | Capel         |       |          |                            |
|                   | 5,144,547       | 09/01/92 | Masamoto      |       |          |                            |
|                   | 5,170,333       | 12/08/92 | Niwayama      |       |          |                            |
|                   | 5,177,676       | 01/05/93 | Inam et al.   |       |          |                            |
|                   | 5,179,511       | 01/12/93 | Troyk et al.  |       |          |                            |
|                   | 5,184,129       | 02/02/93 | Fung et al    |       |          |                            |
| QD                | 5,193,211       | 03/09/93 | Nobusawa      |       |          |                            |
|                   | 5,237,666       | 08/17/93 | Ziermann      |       |          |                            |
|                   | 5,309,078       | 05/19/94 | Cameron       |       |          |                            |
|                   | 5,396,412       | 03/07/95 | Barlage       |       |          |                            |
| QD                | 5,408,162       | 04/18/95 | Williams      |       |          |                            |
|                   | 5,481,178       | 01/19/96 | Wilcox et al. |       |          |                            |
| QD                | 5,548,189       | 08/20/96 | Williams      |       |          |                            |

## FOREIGN PATENT DOCUMENTS

| EXAMINER INITIALS | DOCUMENT NUMBER | DATE     | COUNTRY | CLASS | SUBCLASS | TRANSLATION |    |
|-------------------|-----------------|----------|---------|-------|----------|-------------|----|
|                   |                 |          |         |       |          | YES         | NO |
| A                 | 0 428 377 A2    | 05/22/91 | EPO     | H02m  | 31335    |             |    |
|                   | 60-32565        | 02/19/85 | Japan   | H02m  | 31155    | X           |    |
| QD                | 60-156269       | 08/16/85 | Japan   | H02m  | 3/28     | X           |    |
|                   | 63-307510       | 12/15/88 | Japan   | G05F  | 1156     |             | X  |
|                   | 3-113986        | 11/21/91 | Japan   | H02m  | 31155    | X           |    |
|                   | 4-42771         | 02/13/92 | Japan   | H02m  | 31155    | X           |    |
| V                 | 4-49844         | 02/19/92 | Japan   | H02m  | 31155    | X           |    |

EXAMINER

Stewart

DATE CONSIDERED

8/23/05

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.

|  |  |                                  |                          |
|--|--|----------------------------------|--------------------------|
| FORM PTO-1449                                    | U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE | ATTY. DOCKET NO.<br>LT-167       | SERIAL NO.<br>10/722,808 |
| INFORMATION DISCLOSURE<br>STATEMENT BY APPLICANT |  | APPLICANT<br>Dittmer et al.      |                          |
|  |  | FILING DATE<br>November 26, 2003 | GROUP<br>2838            |

## FOREIGN PATENT DOCUMENTS

| EXAMINER INITIALS | DOCUMENT NUMBER | DATE     | COUNTRY | CLASS | SUBCLASS | TRANSLATION |
|-------------------|-----------------|----------|---------|-------|----------|-------------|
|                   | 4-101286        | 09/01/92 | Japan   | No    | COPY     | Found       |
| QDS               | 4-128086        | 11/20/92 | Japan   | H02m  | 3/55     | X           |

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

| EXAMINER INITIALS | Analog Devices, Inc., "High Efficiency Synchronous Step-Down Switching Regulators ADP1148, ADP1148-3.3, ADP1148-5," Datasheet, pp. 1-14, 1997   |
|-------------------|---|
| ✓                 | Archer, William R., "Current-Driven Synchronous Rectifier," Motorola TMOS Power FET Design Ideas, BR316, pp. 9-10, 1985   |
| ✓                 | Archer, William R., "Current Drives Synchronous Rectifier," EDN, p. 279, 11/28/85   |
| ✓                 | Blanchard, Richard, et al., "MOSFETs, Schottky Diodes Vie for Low-Voltage-Supply Designs," EDN, p. 197, 06/28/84  |
| ✓                 | Bergh et al., "Discontinuous Conduction Mode Power Switching Regulator IC," PCI October 1988 Proceedings, pp. 31-41, 10/88  |
| ✓                 | Brown, Marty, "Practical Switching Power Supply Design," pp. 20-34, Academic Press, Inc., 199   |
| ✓                 | Business Wire, "Micro Linear announces first single-chip power controller for notebook computers," 04/16/92   |
| ✓                 | Casey, L.F., "Circuit Design For 1-10 MHZ DC-DC Conversion," Massachusetts Institute of Technology Sc.D. Thesis, Fig. 3-15, pp. 73-80, 1989   |
| ✓                 | Cassani, John C. et al., "Sophisticated Control IC Enhances 1MHz Current Controlled Regulator Performance," Proceedings of HFPC, May 1992, pp. 167-173.   |
| ✓                 | Chetty, P.R., "DC timers control dc-dc converters" Electronics, pp. 121 & 123, 11/13/75   |
| ✓                 | Chryssis, George, "High-frequency switching power supplies," pp. 144-152 and 180-181, McGraw-Hill, 1989   |
| ✓                 | Dell Computer Corporation, "Dell Computer Corporation Introduces Advanced Notebook PC," (alleged to contain UCI895, see Unitrode Advance Information Datasheet 10/05/92), 09/91   |
| ✓                 | Dinsmore, D., "Dual regulator handles two input voltages," EDN, 01/21/93  |
| ✓                 | Fisher, R. A. et al., "Performance of Low Loss Synchronous Rectifiers in a Series-Parallel Resonant DC-DC Converter," Proceedings of the Fourth Annual IEEE Applied Power Electronics Conference and Exposition, pp. 240-246, 03/89 |
| ✓                 | Gauen, Kim, "Synchronous Rectifier Improves Step-Down Converter Efficiency," PCIM, pp. 8, 11-12 & 14-15, 04/93  |

EXAMINER

Sterrett

DATE CONSIDERED

8/23/05

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.

|  |  |   |                                 |
|--|--|---|---------------------------------|
| FORM PTO-1449                                    | U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE | ATTY. DOCKET NO.<br><b>LT-167</b>       | SERIAL NO.<br><b>10/722,808</b> |
| INFORMATION DISCLOSURE<br>STATEMENT BY APPLICANT |  | APPLICANT<br><b>Dittmer et al.</b>      |                                 |
|  |  | FILING DATE<br><b>November 26, 2003</b> | GROUP<br><b>2838</b>            |

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

| <b>EXAMINER INITIALS</b> |  |
|--------------------------|--|
|                          | Gentowski et al., "Advanced New Integrated Circuits For Current Mode Control," Proceedings of the Power Electronics Show and Conference, pp. 341-352, 10/86                    |
| A                        | Goodenough, F., "Dozing IC Op Amps Wake Up For Input Signal," Electronic Design, 12/05/91  |
|                          | Goodenough, Frank, "Synchronous Rectifier UPS PC Battery Life," Electronic Design, pp. 47-53, 04/16/92   |
|                          | Goodenough, Frank, "Low-Voltage Analog ICs Wait in the Wings," Electronic Design, 09/03/92   |
|                          | Goodenough, F., "Raise Switcher Efficiency Above 90%," Electronic Design, 01/21/93   |
|                          | Gottlieb, I. M., "Practical Power-Control Techniques," Howard W. Sams & Co., pp. 116-120, 1987   |
|                          | Gottlieb, I. M., "Electronic Power Control," TAB Books, pp. 107-111, 1991  |
|                          | Gracie, Paul D., "Intermittent Converter Saves Power," EDN, p. 151, 09/01/89   |
|                          | Graf, Rudolf F., "Modern Dictionary of Electronics," 6th Edition, pp. 402-03, 1984   |
|                          | Grant, Duncan A. et al., "POWER MOSFETS, Theory and Application," pp. 239-256, Wiley-Interscience, 1989  |
|                          | Harris Semiconductor, Hodgins et al., "HIP 5060 Family of Current Mode Control ICs Enhance 1 MHZ Regulator Performance," Application Note AN9212.1, pp. 11-191 to 11-197, 1992 |
| OJ                       | Harris Semiconductor, "HIP 5060 Power Control IC Single Chip Power Supply", Datasheet, 04/94   |
|                          | Harris Semiconductor, "HIP 5060 Power Control IC Single Chip Power Supply", Preliminary Datasheet, 01/92   |
|                          | Harris Semiconductor, "HIP 5060 Power Control IC Single Chip Power Supply", Datasheet, 05/92   |
|                          | Hewlett, S., "Improved Switched Mode Power Supply Regulation by Eliminating Turn-off Spikes," IBM Technical Disclosure Bulletin, Vol. 31, No. 4, pp. 97-98, 09/88              |
|                          | Hnatek, Eugene R., "Design of Solid State Power Supplies," Third Edition, pp. 65-70, Van Nostrand Reinhold, 1989   |
|                          | Horowitz & Hill, "The Art of Electronics," pp. 356-359, Cambridge University Press, 1989   |
|                          | Huffman, B., "Efficiency and Power Characteristics of Switching Regulator Circuits," Application Note 46, Linear Technology, 11/91   |
|                          | Ikeda, S. et al., "Power MOSFET for Switching Regulator," International Telecommunications Energy Conference, 10/82  |
|                          | Impala Linear, "ILC6311 Synchronous 3A Switching Regulator With Auto-Light Load Mode ,," Preliminary Datasheet, pp.30-38, January 1997   |
|                          | Impala Linear, "ILC6350 Dual Output Synchronous Step-Down DC-DC Controller," Advanced Information Preliminary Datasheet, pp. 1-6, January 1997                                 |
| V                        | Impala Linear, "ILC6310 Synchronous Step-down DC-DC Converter With Auto Light-Load Mode Select," Final Datasheet, pp. 21-38, June 1996   |

EXAMINER

*Sterrett*

DATE CONSIDERED

*8/23/05*

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.

|  |  |                                  |                          |
|--|--|----------------------------------|--------------------------|
| FORM PTO-1449                                    | U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE | ATTY. DOCKET NO.<br>LT-167       | SERIAL NO.<br>10/722,808 |
| INFORMATION DISCLOSURE<br>STATEMENT BY APPLICANT |  | APPLICANT<br>Dittmer et al.      |                          |
|  |  | FILING DATE<br>November 26, 2003 | GROUP<br>2838            |

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

| EXAMINER INITIALS |   |
|-------------------|---|
| <i>JLJ</i>        | Impala Linear, "ILC6330 13A Adjustable Synchronous DC-DC Controller," Preliminary Datasheet, pp. 39-41, June 1996   |
| <i>JLJ</i>        | International Rectifier, "IR Application Note AN-978, HV Floating MOS-Gate Driver ICs, Full Bridge With Current Mode Control," Application Note from web page, Date Unknown         |
| <i>JLJ</i>        | International Rectifier, "IR Application Note AN-978, HV Floating MOS-Gate Driver ICs, A Typical Block Diagram," Application Note from web page, Date Unknown                       |
| <i>JLJ</i>        | International Rectifier, Clemente et al., "HV Floating MOS-Gate Driver IC," Application Note AN-978A, 1990  |
| <i>JLJ</i>        | Intersil, "ISL6223 Mobile Microprocessor CORE Voltage Regulator Multi-Phase Buck PWM Controller," Datasheet, 09/01  |
| <i>JLJ</i>        | Kassakian, J. et al., "Principles of Power Electronics," pp. 103-165, Addison-Wesley Publishing Company, 1991   |
| <i>JLJ</i>        | Kerridge, Brian, "Battery power breeds efficient regulators," EDN, pp. 103-108, 03/18/93  |
| <i>JLJ</i>        | Lee, Y. S. and Cheng, Y. C., "A 580 kHz switching regulator using on-off control," Journal of the Institution of Electronic and Radio Engineers, Vol. 57, No. 5, pp. 221-226, 09/87 |
| <i>JLJ</i>        | Lee, et al., "Design of Switching Regulator with Combined FM and On-Off Control," IEEE Transactions on Aerospace and Electronic Systems, Vol. AES-22, No. 6, pp. 725-731, 11/8      |
| <i>JLJ</i>        | Linear Technology, "LT1074 Switching Regulator," Preliminary Datasheet, 06/89   |
| <i>JLJ</i>        | Linear Technology, "LT1072 1.25A High Efficiency Switching Regulator," Datasheet, 1990  |
| <i>JLJ</i>        | Linear Technology, "New Device Cameos," Linear Technology Magazine, 10:18-19 1992   |
| <i>JLJ</i>        | Linear Technology, "LTC1148/LTC1148-3.3/LTC1148-5 High Efficiency Synchronous Stepdown Switching Regulator," Preliminary Datasheet, 11/92   |
| <i>JLJ</i>        | Linear Technology, Wilson, M., "LT1158 Half-Bridge N-Channel Power MOSFET Driver," Datasheet, 1992  |
| <i>JLJ</i>        | Linear Technology, Williams, J., Application Note 29, "Some Thoughts on DC-DC Converters," 1990 Linear Applications Handbook, pp. AN29-1 to AN29-44, 10/88                          |
| <i>JLJ</i>        | Linear Technology, "LT1524/LT3524 Regulating Pulse Width Modulator," 1990   |
| <i>JLJ</i>        | Linear Technology, "LT1432 5V High Efficiency Step Down Switching Regulator Controller," 1992 Linear Databook Supplement, pp. 4-145 to 4-171.                                       |
| <i>JLJ</i>        | Linear Technology, "LT1170/LT1171/LT1172 100kHz 5A, 2.5A, 1.25A High Efficiency Switching Regulators," Data Sheet, 1991   |
| <i>JLJ</i>        | Linear Technology, "LT1271/LT1269 4A High Efficiency Switching Regulators," Data Sheet, 1992  |
| <i>JLJ</i>        | Linear Technology, Pietkiewicz et al., "DC-DC Converters for Portable Computers," Design Note 52, 1991  |
| <i>JLJ</i>        | Linear Technology, Nelson, G., App. Note 10, "LT 1070 Design Manual," 06/96   |

EXAMINER *Stewart*

DATE CONSIDERED

*8/23/05*

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.

|  |  |   |                                 |
|--|--|---|---------------------------------|
| FORM PTO-1449                                    | U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE | ATTY. DOCKET NO.<br><b>LT-167</b>       | SERIAL NO.<br><b>10/722,808</b> |
| INFORMATION DISCLOSURE<br>STATEMENT BY APPLICANT |  | APPLICANT<br><b>Dittmer et al.</b>      |                                 |
|  |  | FILING DATE<br><b>November 26, 2003</b> | GROUP<br><b>2838</b>            |

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

| EXAMINER INITIALS |  |
|-------------------|--|
|                   | Linear Technology, "LTC1873 Dual 550 kHz Synchronous 2-Phase Switching Regulator Controller With 5-Bit VID," Datasheet, 1999                                     |
|                   | Linear Technology, "LTC1878 High Efficiency Monolithic Synchronous Step-Down Regulator," Initial Release, Final Electrical Specifications, May 2000              |
|                   | Linear Technology, "LTC1702 Dual 550 kHz Synchronous 2-Phase Switching Regulator Controller," Datasheet, 1999  |
| ✓                 | Linear Technology, Williams, J., App. Note 25, "Switching Regulators for Poets," 09/87   |
| ✓                 | Linear Technology, "LT1846/1847, LT3846/3847 Current Mode PWM Controller," Datasheet, 1990   |
|                   | Linear Technology, "LTC1703 Dual 550 kHz Synchronous 2-Phase Switching Regulator Controller with 5-Bit VID," Datasheet, 1999                                     |
| ✓                 | Linear Technology, "LTC1735 High Efficiency Synchronous Step-Down Switching Regulator," Datasheet, 1998  |
| ✓                 | Linear Technology, "LTC1736 5-Bit Adjustable High Efficiency Synchronous Step-Down Switching Regulator," Datasheet, 1999   |
| ✓                 | Linear Technology, "LTC1775 High Power NO RSENSE™ Current Mode Synchronous Step-Down Switching Regulator," Datasheet, 1999                                       |
| ✓                 | Linear Technology, Williams, J., Application Note 35, "Step Down Switching Regulators," 1990 Linear Applications Handbook, pp. AN35-1 to AN35-32, 8/89           |
| ✓                 | Linear Technology, "LTC1436A/LTC1436A-PLL/LTC1437A High Efficiency Low Noise Synchronous Step-Down Switching Regulators," Datasheet, 1996                        |
| ✓                 | Linear Technology, "LTC1438/LTC1439 Dual High Efficiency, Low Noise, Synchronous Step-Down Switching Regulators," Datasheet, 1997                                |
| No Copy           | Linear Technology, Nelson, C., "The LTC1432-5 Volt Regulator Achieves 90% Efficiency," Linear Technology Magazine, Vol. 2, No. 1, pp. 18-19, 2/93                |
| ↑                 | Linear Technology, Pietkiewicz, S., "A Low-Voltage, Micro-Power 1 Amp Switching Regulator," presented at the International Solid State Circuits Conference, 1990 |
| ✓                 | Linear Technology, LT1073 Micropower DC-DC Converter Adjustable and Fixed 5V, 12V," Datasheet, 1991  |
| ✓                 | Linear Technology, "LTC1538-AUX/LTC1539 Dual High Efficiency, Low Noise, Synchronous, Step-Down Switching Regulators," Datasheet, 1999                           |
| ✓                 | Linear Technology, "LTC1142/LTC1142L/LTC1142HV Dual High Efficiency Synchronous Step-Down Switching Regulators," Datasheet, 1995                                 |
| ✓                 | Linear Technology, "LTC1149/LTC1149-3.3/LTC1149-5 High Efficiency Synchronous Step-Down Switching Regulators," Datasheet, 1993                                   |

EXAMINER

*Sterreft*

DATE CONSIDERED

*8/23/05*

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.

|  |  |                                  |                          |
|--|--|----------------------------------|--------------------------|
| FORM PTO-1449                                    | U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE | ATTY. DOCKET NO.<br>LT-167       | SERIAL NO.<br>10/722,808 |
| INFORMATION DISCLOSURE<br>STATEMENT BY APPLICANT |  | APPLICANT<br>Dittmer et al.      |                          |
|  |  | FILING DATE<br>November 26, 2003 | GROUP<br>2838            |

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

| EXAMINER INITIALS |   |
|-------------------|---|
|                   | Linear Technology, "LTC1627 Monolithic Synchronous Step-Down Switching Regulator," Datasheet, 1998  |
| ✓                 | Linear Technology, "LTC1159/LTC1159-3.3/LTC1159-5 High Efficiency Synchronous Step-Down Switching Regulators," Datasheet, 1994  |
| ✓                 | Linear Technology, "LTC1435 High Efficiency Low Noise Synchronous Step-Down Switching Regulator," Datasheet, 1996   |
| ✓                 | Linear Technology, "LTC1267/LTC1267-ADJ/LTC1267-ADJS Dual High Efficiency Synchronous Step-Down Switching Regulators," Datasheet, 1995  |
| ✓                 | Linear Technology, "LTC1266/LTC1266-3.3/LTC1266-5 Synchronous Regulator Controller for NB or P-Channel MOSFETs," Datasheet, 1995  |
| ✓                 | Markus, John, "Guidebook of Electronic Circuits," pp. 647 & 649, 1971   |
| ✓                 | Maxim Integrated Products, Inc., "MAX638 Fixed +5V CMOS Step-Down Switching Regulator," Maxim 1989 Integrated Circuits Data Book, pp. 6-57 to 6-64, 1989  |
| ✓                 | Maxim Integrated Products, Inc., "MAX782/MAX786 Notebook Computer Power Supplies," Advance Information Data Sheet, February 1993, pp.1-8.   |
| ✓                 | Maxim Integrated Products, "MAX1630-MAX1635 Multi-Output, Low-Noise Power Supply Controllers for Notebook Computers," Datasheet Rev. 3; 04/97   |
| ✓                 | Maxim Integrated Products, "MAX798 High-Accuracy Step-Down Controller With Synchronous Rectifier for CPU Power," Datasheet, 12/96   |
| ✓                 | Maxim Integrated Products, "MAX796/MAX797/MAX799 Step-Down Controllers With Synchronous Rectifier for CPU Power," Datasheet Rev. 3a; 11/97  |
| ✓                 | Maxim Integrated Products, Inc., MAX782, Addendum to Advance Information Sheet and EV Kit Document, bearing Bates numbers L07760 -007785, contains dates in 2/93 and 3/93 (MAX782 Advance Information Data Sheet cited above) |
| No Copy           | Maxim Integrated Products, Inc., "MAX635/36/37 Fixed Output CMOS Inverting Switching Regulators," Maxim 1989 Integrated Circuits Data Book, pp. 6-49 to 6-46, 1989  |
| No Copy           | Maxim Integrated Products, Inc., "MAX639 High Efficiency, +5V Adjustable Step Down Switching Regulator," Datasheet, 12/91   |
| ✓                 | Maxim Integrated Products, Inc., "MAX635/636/637 Preset/Adjustable Output CMOS Inverting Switching Regulators," Datasheet, Date Unknown   |
| ✓                 | Maxim Integrated Products, "MAX782 Triple-Output Power-Supply Controller for Notebook Computers," Datasheet Rev. 2; 5/94  |
| No Copy           | Maxim Integrated Products, Inc., "MAX783 Triple-Output Power Supply Controller for Notebook Computers," Datasheet, 05/94  |

EXAMINER

*Stennett*

DATE CONSIDERED

*8/23/05*

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.

|  |  |                                  |                          |
|--|--|----------------------------------|--------------------------|
| FORM PTO-1449                                    | U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE | ATTY. DOCKET NO.<br>LT-167       | SERIAL NO.<br>10/722,808 |
| INFORMATION DISCLOSURE<br>STATEMENT BY APPLICANT |  | APPLICANT<br>Dittmer et al.      |                          |
|  |  | FILING DATE<br>November 26, 2003 | GROUP<br>2838            |

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

| EXAMINER INITIALS |   |
|-------------------|---|
|                   | Maxim Integrated Products, "MAX887 100% Duty Cyclic, Low Noise, Step-Down PWM DC-DC Converter," Datasheet, 09/96  |
| ✓                 | Maxim Integrated Products, Inc., "MAX746 High-Efficiency, PWM, Step-Down, N-Channel DC-DC Controller," Datasheet, 11/93                                 |
| ✓                 | Maxim Integrated Products, Inc., "MAX747 High-Efficiency PWM, Step-Down P-Channel DC-DC Controller," Datasheet, 09/93                                   |
| ✓                 | Maxim Integrated Products, Inc., "MAX777L/MAX778L/MAX779L Low-Voltage Input, 3V/3.3V/5V/ Adjustable Output, Step-Up DC-DC Converters," Datasheet, 07/96 |
| ✓                 | Maxim Integrated Products, "MAX767 5V-to-3.3V, Synchronous, Step-Down Power-Supply Controller," Datasheet Rev. 2; 08/94                                 |
| ✓                 | Meakin, Mike, "The LM3578 Switching Power Regulator," Electronic Engineering, pp. 47-52, 07/86  |
| ✓                 | Micro Linear Corporation, "ML4861 Low Voltage Boost Regulator," Preliminary Datasheet, July 1992  |
| ✓                 | Micro Linear Corporation, "ML 4822 DC/DC Converter Controller for Portable Computers," Datasheet, 08/91   |
| ✓                 | Micro Linear Corporation, "ML4862 EVAL User's Guide," 06/92   |
| ✓                 | Micro Linear Corporation, "ML4873 Battery Power Control IC," Datasheet, 01/97 (preliminary version 03/93 - cited below)                                 |
| ✓                 | Micro Linear Corporation, "ML4862 Battery Power Control IC," Datasheet, 03/97   |
| ✓                 | Micro Linear Corporation, "ML4862 Battery Power Control IC," Advance Information Datasheet, 07/92   |
| ✓                 | Micro Linear Corporation, "ML4860 Battery to DC Power Control IC for Portable Systems," Advanced Information, 02/92                                     |
| NO COPY           | Micro Linear Corporation, "ML4873 Battery Power Control IC," Advance Information Data Sheet, March 15, 1993, pp. 1-8                                    |
| ✓                 | Myers, R. and Peck, R., "200-kHz Power FET Technology in New Modular Power Supplies," Hewlett-Packard Journal, 08/81                                    |
| ✓                 | NASA Jet Propulsion Laboratory, * "Synchronous Half-Wave Rectifier," 7/89   |
| ✓                 | National Semiconductor Corporation, "LM1578/LM2578/LM3578 Switching Regulator," Preliminary Datasheet, 1987   |
| ✓                 | Patel, Raoji, "Using Bipolar Synchronous Rectifiers Improves Power Supply Efficiency," Proceedings of the Power Sources Conference, 11/84               |
| ✓                 | Patel, R., "Bipolar synchronous rectifiers cut supply losses," EDN, 04/04/85  |
| ✓                 | Quinnell, Richard A., "Analog IC Combines Five Functions for Battery Power Management," EDN, 04/23/92   |

EXAMINER

*Sterrett*

DATE CONSIDERED

*8/23/05*

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.

|  |  |                                  |                          |
|--|--|----------------------------------|--------------------------|
| FORM PTO-1449                                    | U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE | ATTY. DOCKET NO.<br>LT-167       | SERIAL NO.<br>10/722,808 |
| INFORMATION DISCLOSURE<br>STATEMENT BY APPLICANT |  | APPLICANT<br>Dittmer et al.      |                          |
|  |  | FILING DATE<br>November 26, 2003 | GROUP<br>2838            |

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

| EXAMINER INITIALS |   |
|-------------------|---|
| ✓ Q/S             | Redl et al., "Frequency Stabilization and Synchronization of Free-Running Current-Mode Controlled Converters," PESC '86 Record, pp. 519-530, 1986   |
| ✓                 | Redl, et al., "Overload Protection Methods For Switching Mode DC/DC Converters. Classification, Analysis, and Improvements," PESC '87 Record, pp. 107-118, 1987   |
| ✓ ↑               | Rippel, W.E., "Synchronous Half-Wave Rectifier," NASA Jet Propulsion Laboratory Technical Support Package Vol. 13, No. 7, Item #15, 7/89  |
| ✓                 | Sakai, E. and Harada, K., "A New Synchronous Rectifier Using Bipolar Transistor Driven by Current Transformer," Fourteenth International Telecommunications Energy Conference, pp. 424-429, 10/92   |
| ✓                 | Sakai, E. and Harada, K., "Synchronous Rectifier Using a Bipolar Transistor Driven by Current Transformer," Journal of the Society of Electronic Data Communication, Vol. J-74-B-I, No. 8, pp. 639-646, 08/91 (in Japanese, with translation) |
| ✓                 | Savant, C.J., Jr., et al., "Electronic Design: Circuits and Systems," pp. 612-613, The Benjamin/Cummings Publishing Co., 1991   |
| ✓                 | Shepard, J., "Powering portable systems," EDN, 11/05/92   |
| ✓                 | Siliconix, "Si91XX Synchronous Buck Controller," Objective Specification, 12/20/90  |
| ✓                 | Siliconix, "Siliconix Si9110/Si9111," Datasheet, 10/87  |
| ✓                 | Siliconix, "Synchronous Rectification," Design Ideas, 10/80   |
| ✓                 | Siliconix, "Si9150 Synchronous Buck Regulator Controller, S-42677, Rev. D," Datasheet, 2/14/95  |
| ✓                 | Siliconix, "High-Efficiency Buck Converter for Notebook Computers," Application Note AN92-4, Date Unknown   |
| ✓                 | Siliconix, "Designing DC/DC Converters with the Si9110 Switchmode Controller," Siliconix Power Products Data Book, 1991   |
| ✓                 | Siliconix, "Si9150CY/BCY Synchronous Buck Converter Controller," Preliminary Data Sheet, 10/08/92   |
| ✓                 | Siliconix, "Si9150 Synchronous Buck Converter Controller," Objective Specification, handwritten pp. 7-17, 9/10/91   |
| ✓                 | Siliconix, Si9150 documents bearing Bates numbers U040269-71, 9104  |
| ✓                 | Soclof, Sidney, "Applications of Analog Integrated Circuits," Figure 2.25, pp. 74-75, Prentice-Hall, Inc. 1985  |
| ✓                 | Sokal et al., "Control Algorithms and Circuit Designs For Optimally Flyback-Charging an Energy-Storage Capacitor," IEEE Fifth Applied Power Electronics Conference, pp. 295-301, 1990   |
| ✓                 | Steigerwald, R., "High-Frequency Resonant Transistor DC-DC Converters," IEEE Transactions on Industrial Electronics, Volume IE-31, Number 2, pp. 181-191, 05/84   |
| ✓                 | Taylor, "Flyback Converter," Electronic Engineering, p. 23, July, 07/76   |

EXAMINER

*Sterrett*

DATE CONSIDERED

*8/23/05*

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.

|  |  |                                  |                          |
|--|--|----------------------------------|--------------------------|
| FORM PTO-1449                                    | U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE | ATTY. DOCKET NO.<br>LT-167       | SERIAL NO.<br>10/722,808 |
| INFORMATION DISCLOSURE<br>STATEMENT BY APPLICANT |  | APPLICANT<br>Dittmer et al.      |                          |
|  |  | FILING DATE<br>November 26, 2003 | GROUP<br>2838            |

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

| EXAMINER INITIALS |  |
|-------------------|--|
| ✓                 | Toyoda, "SB3012P Step Down DC-DC Converter Controller," Datasheet, March 1997  |
| ✓                 | Toyoda, "SB3030P Step Down DC-DC Converter Controller," Datasheet, December 1996   |
| ✓                 | Toyoda, "SB3011P Step Down DC-DC Converter Controller," Datasheet, March 1997  |
| ✓                 | Toyoda, "SB3052P Dual Channel Step Down DC-DC Converter Controller," Datasheet, February 1998  |
| ✓                 | Toyoda, "SB3020P Dual Channel Step Down DC-DC Converter Controller," Datasheet, March 1997   |
| ✓                 | Toyoda, "SB3010P Synchronous Stepdown DC-DC Converter Controller," Datasheet August 10, 1995   |
| ✓                 | Toyoda, "SB3013P Step Down DC-DC Converter Controller," Datasheet, March 1997  |
| ✓                 | Toyoda, "SB3050P Dual Channel Step Down DC-DC Converter Controller," Datasheet, March 1997   |
| ✓                 | Toyoda, "SB3031P Step Down DC-DC Converter Controller," Datasheet, December 1996   |
| ✓                 | <del>Uchida, Takahito, "Control Circuit for Switching Regulator," Japanese Inventor-Associated Disclosed Technology Publication No. 92-2362, published 2/15/92 (in Japanese, with translation)</del> |
| ✓                 | Unitrode, "Using Bipolar Synchronous Rectifiers Improves Power Supply Efficiency," Application Note U-103, 1989-1990 Unitrode Semiconductor Databook and Application Notes, pp. 12-88 to 12-94, 6/85 |
| ✓                 | Unitrode, "UC1846/7, UC2846/7, UC3846/7 Current Mode PWM Controller," Datasheet, 1/97  |
| ✓                 | <del>Unitrode, "UCC29421/2, UCC39421/2 Multimode High Frequency PWM Controller," Preliminary Datasheet, 10/1999</del>  |
| ✓                 | Unitrode, "UC1874-1,-2, UC2874-1,-2, UC3874-1,-2 High Efficiency, Synchronous Step-Down (Buck) Controllers," Datasheet, 02/1998  |
| ✓                 | Unitrode, "UC1895, UC2895, UC3895 Synchronous Rectifier Buck PWM Controller," Advance Information Datasheet, 10/06/92  |
| ✓                 | Unitrode, "UC1870-1/-2, UC2870-1/-2, UC3870-1/-2 High Efficiency, Synchronous, Step-Down (Buck) Controllers," Datasheet, 08/1998   |
| ✓                 | Unitrode, "UCC3941-3/-5/-ADJ 1V Synchronous Boost Converter," Preliminary Datasheet, 3/97  |
| ✓                 | Unitrode, "UCC19411/2/3, UCC29411/2/3, UCC39411/2/3 Low Power Synchronous Boost Converter," Preliminary Datasheet, 4/98  |
| ✓                 | <del>Unitrode, "UCC1582, UCC2582, UCC3582 High Efficiency Synchronous Step-Down Controller," Preliminary Datasheet, 1/97</del>   |
| ✓                 | <del>No Copy — Wilcox, M., "The LT1158: Low Voltage, N Channel Bridge Design Made Easy," Linear Technology Magazine, Vol. 2, No. 1, 2/92</del>   |
| ✓                 | Williams, J. and Huffman, B., "Proper instrumentation eases low-power dc/dc converter design," EDN, 10/27/88   |
| ✓                 | <del>No Copy — Williams, J., "Basic Principles and Ingenious Circuits Yield Stout Switchers," EDN, 01/18/90</del>  |

EXAMINER

*Sterrett*

DATE CONSIDERED

*8/23/05*

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.

|  |  |                                  |                          |
|--|--|----------------------------------|--------------------------|
| FORM PTO-1449                                    | U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE | ATTY. DOCKET NO.<br>LT-167       | SERIAL NO.<br>10/722,808 |
| INFORMATION DISCLOSURE<br>STATEMENT BY APPLICANT |  | APPLICANT<br>Dittmer et al.      |                          |
|  |  | FILING DATE<br>November 26, 2003 | GROUP<br>2838            |

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

| EXAMINER INITIALS |  |
|-------------------|--|
| ✓                 | Williams, J., "Signal conditioning circuits use *power design techniques," EDN, 08/20/87   |
| ✓                 | Williams, J., "Employ pulse-width modulators in a wide range of controllers," EDN, 09/02/81  |
| ✓                 | Williams, J., "Switching regulator takes on more power," Electronic Product Design, 01/86  |
| ✓                 | Williams, J., "Design dc-dc converters to catch noise at the source," Electronic Design, 10/15/81  |
| ✓                 | Williams, J., "Conversion techniques adapt voltages to your needs," EDN, 11/10/82  |
|                   | Williams, J., "Special circuit design techniques enhance regulator performance," EDN, 09/01/83   |
| ✓                 | Williams, J., "Use low-power design methods to condition battery outputs," EDN, 10/18/84   |
| ✓                 | Williams, J., "Chopper amplifier improves operation of diverse circuits," EDN, 03/07/85  |
| No Copy           | Williams, J., "Refine V/F converter operation with novel design techniques," EDN, 05/30/85   |
| ✓                 | Williams, J. and Huffman, B., "Design dc/dc converters for power conservation and efficiency," EDN, 11/10/88   |
|                   | Williams, J. and Waller, B., "Performance-Enhancement Techniques for Three-Terminal Regulators," New Electronics, 10/04/83   |
| ✓                 | Williams, J. and Huffman, B., "Switched-capacitor networks simplify dc/dc-converter designs," EDN, 11/24/88  |
|                   | Williams, J., "Regulator IC speeds design of switching power supplies," EDN, 11/12/87  |
|                   | Williams, J., "Micropower circuits assist low-current signal conditioning," EDN, 08/06/87  |
| ✓                 | Williams, J. and Huffman, B., "Precise converter designs enhance system performance," EDN, 10/13/88  |
|                   | Williams, J. and Dendinger, S., "Simplify feedback controllers with a 2-quadrant PWM IC," EDN, 05/26/83  |
| ✓                 | Williams, J., "Bridge forms synchronous rectifier," EDN  |
|                   | Williams, J., "Designing supplies for powering LCD backlighting," EDN, 10/29/92  |
|                   | Williams, J., "1.5 to 5V converter supplies 200mA," EDN, 10/15/92  |
|                   | Williams, J., "Design linear circuits that serve digital system needs," EDN, 04/27/89  |
|                   | Williams, J., "Clever techniques improve thermocouple measurements," EDN, 05/26/88   |
| ✓                 | Williams, J., "Design techniques extend V/F-converter performance," EDN, 05/16/85  |
|                   | Williams, J., "Design linear circuits for 5V operation," EDN, 05/02/85   |
|                   | Williams, J., "Considerations for Five Volt Linear Circuits," Professional Program Session Record 20, Circuits for Analog Signal Processing and Data Conversion is Single +5V Supply Systems, Wescon/85, 11/85 |
|                   | Williams, J., "Analog circuits operate from a 1.5V cell," EDN, 09/19/85  |
|                   | Williams, J., "Astute designs improve efficiencies of linear regulators," EDN, 08/17/89  |
| ✓                 | Williams, J., "Galvanically isolated switching supplies provide high power," EDN, 11/26/87   |

EXAMINER

Sterrett

DATE CONSIDERED

8/23/05

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.

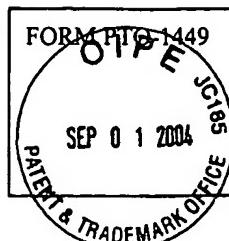
|  |  |                                  |                          |
|--|--|----------------------------------|--------------------------|
| FORM PTO-1449                                    | U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE | ATTY. DOCKET NO.<br>LT-167       | SERIAL NO.<br>10/722,808 |
| INFORMATION DISCLOSURE<br>STATEMENT BY APPLICANT |  | APPLICANT<br>Dittmer et al.      |                          |
|  |  | FILING DATE<br>November 26, 2003 | GROUP<br>2838            |

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

| EXAMINER INITIALS |   |
|-------------------|---|
| <i>JLS</i>        | Williams, J., "Correcting power-supply problems," EDN, 10/10/91 |

EXAMINER *Sterrett*DATE CONSIDERED *8/23/05*

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.

|   |  |  |                                  |                              |
|---|--|--|----------------------------------|------------------------------|
| <br>SEP 01 2004<br>INFORMATION DISCLOSURE<br>STATEMENT BY APPLICANT<br>PATENT & TRADEMARK OFFICE | U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE |  | ATTY. DOCKET NO.<br>LT-167       | SERIAL NO.<br>10/722,808     |
|   |  |  | APPLICANT<br>Dittmer et al.      |                              |
|   |  |  | FILING DATE<br>November 26, 2003 | GROUP 203A<br>To Be Assigned |
|   |  |  |                                  |                              |

## U.S. PATENT DOCUMENTS

| EXAMINER INITIALS | DOCUMENT NUMBER | DATE     | NAME           | CLASS | SUBCLASS | FILING DATE IF APPROPRIATE |
|-------------------|-----------------|----------|----------------|-------|----------|----------------------------|
| <i>JL</i>         | 3,784,893       | 01/08/74 | Rando          |       |          |                            |
|                   | 4,326,245       | 04/20/82 | Saleh          |       |          |                            |
| <i>N</i>          | 4,672,303       | 06/09/87 | Newton         |       |          |                            |
|                   | 4,727,308       | 02/23/88 | Hujak et al.   |       |          |                            |
|                   | 4,819,122       | 04/04/89 | Gontowski, Jr. |       |          |                            |
|                   | 4,851,953       | 07/25/89 | O'Neill et al. |       |          |                            |
|                   | 4,928,200       | 05/22/90 | Redl et al.    |       |          |                            |
|                   | 4,929,882       | 05/29/90 | Szepesi        |       |          |                            |
|                   | 5,034,871       | 07/23/91 | Okamoto et al. |       |          |                            |
|                   | 5,055,767       | 10/08/91 | Nelson         |       |          |                            |
|                   | 5,237,606       | 08/17/93 | Ziermann       |       |          |                            |
|                   | 5,309,078       | 05/19/94 | Cameron        |       |          |                            |
|                   | 5,396,412       | 03/07/95 | Barlage        |       |          |                            |
| <i>JL</i>         | 5,481,178       | 01/19/96 | Wilcox et al.  |       |          |                            |
|                   | 5,731,694       | 03/24/98 | Wilcox et al.  |       |          |                            |
|                   | 5,847,554       | 12/08/98 | Wilcox et al.  |       |          |                            |
| <i>JL</i>         | 5,994,885       | 11/30/99 | Wilcox et al.  |       |          |                            |

## FOREIGN PATENT DOCUMENTS

| EXAMINER INITIALS | DOCUMENT NUMBER | DATE     | COUNTRY | CLASS | SUBCLASS | TRANSLATION |    |
|-------------------|-----------------|----------|---------|-------|----------|-------------|----|
|                   |                 |          |         |       |          | YES         | NO |
| <i>JL</i>         | 4-101286        | 09/01/92 | Japan   | H02M  | 31155    | X           |    |

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

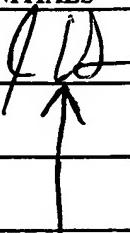
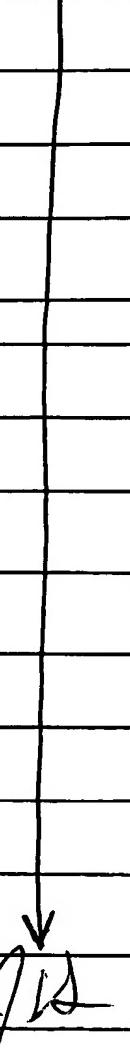
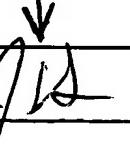
|                   |   |
|-------------------|---|
| EXAMINER INITIALS |   |
| <i>JL</i>         | Borghi et al., "Discontinuous Conduction Mode Power Switching Regulator IC," PCI October 1988 Proceedings, pp. 31-41, 10/88 |

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.

EXAMINER: *Sterrett* DATE CONSIDERED *8/23/05*

|  |  |                                  |                                      |
|--|--|----------------------------------|--------------------------------------|
| FORM PTO-1449                                    | U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE | ATTY. DOCKET NO.<br>LT-167       | SERIAL NO.<br>10/722,808             |
| INFORMATION DISCLOSURE<br>STATEMENT BY APPLICANT |  | APPLICANT<br>Dittmer et al.      |                                      |
|  |  | FILING DATE<br>November 26, 2003 | GROUP <u>2A 3B</u><br>To Be Assigned |

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

| EXAMINER INITIALS   |   |
|---|---|
| ✓    | Casey, L.F., "Circuit Design For 1-10 MHZ DC-DC Conversion," Massachusetts Institute of Technology ScD. Thesis, Fig. 3-15, pp. 73-80, 1989                                  |
| ✓   | Cherry Semiconductor, "CS-5120 Synchronous NFET Buck Controller With V2 Architecture," Datasheet, 04/08/97  |
| ✓   | Gontowski et al., "Advanced New Integrated Circuits For Current-Mode Control," Proceedings of the Power Electronics Show and Conference, pp. 341-352, 10/86                 |
| ✓   | International Rectifier, "IR Application Note AN-978, HV Floating MOS Gate Driver ICs, Full Bridge With Current Mode Control," Application Note from web page, Date Unknown |
| ✓   | Intersil, "ISL6223 Mobile Microprocessor CORE Voltage Regulator Multi-Phase Buck PWM Controller," Data Sheet, 10/01, File No. 9013  |
| ✓   | Linear Technology, "LT1432 5V High Efficiency Step-Down Switching Regulator Controller," <u>1992 Linear Databook Supplement</u> , pp. 4-145 to 4-171.                       |
| ✓   | Linear Technology, "LTC1625 NO RSENSE™ Current Mode Synchronous Step-Down Switching Regulator," Datasheet, 1998   |
| ✓   | Linear Technology, "LTC1627 Monolithic Synchronous Step-Down Switching Regulator," Datasheet, 1998  |
| ✓   | Linear Technology, "LTC1702 Dual 550 kHz Synchronous 2-Phase Switching Regulator Controller," Datasheet, 1999   |
| ✓   | Linear Technology, "LTC1703 Dual 550 kHz Synchronous 2-Phase Switching Regulator Controller with 5-Bit VID," Datasheet, 1999  |
| ✓   | Linear Technology, "LTC1775 High Power NO RSENSE™ Current Mode Synchronous Step-Down Switching Regulator," Datasheet, 1999  |
| ✓   | Linear Technology, "LTC1778 Wide Operating Range, NO RSENSE™ Step-Down Controller," Datasheet, 01/2001  |
| ✓   | Linear Technology, "LTC1873 Dual 550 kHz Synchronous 2-Phase Switching Regulator Controller With 5-Bit VID," Datasheet, 1999  |
| ✓   | Linear Technology, "LTC1877 High Efficiency Monolithic Synchronous Step-Down Regulator," Initial Release, Final Electrical Specifications, May 2000                         |
| ✓   | Linear Technology, "LTC1878 High Efficiency Monolithic Synchronous Step-Down Regulator," Initial Release, Final Electrical Specifications, May 2000                         |
| ✓  | Linear Technology, "LTC3711 5-Bit Adjustable, Wide Operating Range, NO RSENSE™ Step-Down Controller," Initial Release Datasheet, January 2001                               |
| ✓  | Linear Technology, "LTC3714 Intel Compatible, Wide Operating Range, Step-Down Controller with Internal Op Amp," Initial Release Datasheet, April 2001                       |

EXAMINER

*Sterrett*

DATE CONSIDERED

*8/23/05*

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.

|  |  |   |  |
|--|--|---|--|
| FORM PTO-1449                                    | U.S. DEPARTMENT OF COMMERCE<br>PATENT AND TRADEMARK OFFICE | ATTY. DOCKET NO.<br><b>LT-167</b>       | SERIAL NO.<br><b>10/722,808</b>            |
| INFORMATION DISCLOSURE<br>STATEMENT BY APPLICANT |  | APPLICANT<br><b>Dittmer et al.</b>      |  |
|  |  | FILING DATE<br><b>November 26, 2003</b> | GROUP <b>283B</b><br><b>To Be Assigned</b> |

## OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)

| EXAMINER INITIALS |   |
|-------------------|---|
| ✓                 | Linear Technology, Nelson, C., App. Note 19, "LT-1070 Design Manual," 06/86   |
| ✓                 | Linear Technology, Wilcox, M., "LT1158 Half Bridge N-Channel Power MOSFET Driver," Datasheet, 1992  |
| ✓                 | Maxim Integrated Products, "MAX1710/MAX1711/MAX1712 High-Speed, Digitally Adjusted Step-Down Controllers for Notebook CPUs," Datasheet, 2000                    |
| ✓                 | Maxim Integrated Products, "MAX887 100% Duty Cycle, Low-Noise, Step-Down PWM DC-DC Converter," Datasheet, 09/96   |
| ✓                 | Micro Linear Corporation, "ML4861 Low Voltage Boost Regulator," Preliminary Datasheet, July 1992  |
| ✓                 | Redl, et al., "Overload-Protection Methods For Switching-Mode DC/DC Converters: Classification, Analysis, and Improvements," PESC '87 Record, pp. 107-118, 1987 |
| ✓                 | Texas Instruments, "TPS40050, TPS40051, TPS40053 Wide-Input Synchronous Buck Controller," Datasheet, 09/03  |
| ✓                 | Texas Instruments, "TPS40060, TPS40061 Wide-Input Synchronous Buck Controller," Datasheet, 02/03  |
| ✓                 | Texas Instruments, "TPS5120 Dual Output, Two-Phase Synchronous Buck DC/DC Controller," Datasheet, 02/2001   |
| ✓                 | Umminger, Christopher, B., "New No RSENSE™ Controllers Deliver Very Low Output Voltages," Linear Technology Magazine, pp. 16-20, 2/2001                         |
| ✓                 | Unitrode, "UCC1582, UCC2582, UCC3582 High Efficiency Synchronous, Step Down Controller," Preliminary Datasheet, 1/1997  |
| ✓                 | Unitrode, "UCC29421/2, UCC39421/2 Multimode High Frequency PWM Controller," Preliminary Datasheet, 10/1999  |
| ✓                 | Williams, J. and Dendinger, S., "Simplify feedback controllers with a 2-quadrant PWM IC," EDN, 05/26/83   |
| ✓                 | Williams, J., "Special circuit-design techniques enhance regulator performance," EDN, 09/01/83  |

EXAMINER

*Sterrett*

DATE CONSIDERED

*8/23/05*

EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not conformance and not considered. Include copy of this form with next communication to applicant.